EPO-TEK® MED-OD2002

Technical Data Sheet
For Reference Only
Biocompatible/High Tg, Optical Epoxy
ISO 10993 Tested/Fully Compliant

Date:	August 2021
Rev:	VIII
No. of Components:	Two
Mix Ratio by Weight:	20 : 1
Specific Gravity:	Part A: 1.20 Part B: 1.02 Syringe: 1.18
Pot Life:	4 Hours
Shelf Life- Bulk:	One year at room temperature
Shelf Life- Syringe:	One year at -40°C

Biocompatible Certified Cure: 120°C / 1 Hour

Alternative biocompatible cure schedules may be possible, but have not been certified. Contact med@epotek.com with any questions.

NOTES:

- Container(s) should be kept closed when not in use.
- Filled systems should be stirred thoroughly before mixing and prior to use.
- Performance properties (rheology, conductivity, others) of the product may vary from those stated on the data sheet when bi-pak/syringe packaging or post-processing of any kind is performed. Epoxy's warranties shall not apply to any products that have been reprocessed or repackaged from Epoxy's delivered status/container into any other containers of any kind, including but not limited to syringes, bi-paks, cartridges, pouches, tubes, capsules, films or other packages.
- Syringe packaging will impact initial viscosity and effective pot life, potentially beyond stated parameters.
- *TOTAL MASS SHOULD NOT EXCEED 25 GRAMS*

Product Description: EPO-TEK® MED-OD2002 is a biocompatible, high Tg, low modulus, high temperature epoxy, used primarily for fiber optics and endoscopes. It is highly autoclave resistant and when cured properly can withstand 1,000 autoclave cycles.

Typical Properties: Cure condition: 120°C / 1 Hour Different batches, conditions & applications yield differing results. Data below is not guaranteed. To be used as a guide only, not as a specification. * denotes test on lot acceptance basis

PHYSICAL PROPERTIES:		
* Color (before cure):	Part A: Cream	Part B: Amber
* Consistency:	Pourable paste	
* Viscosity (23°C) @ 5 rpm:	24,000-42,000	cPs
Thixotropic Index:	N/A	
Glass Transition Temp:	161	°C (Dynamic Cure: 20-200°C/ISO 25 Min; Ramp -10-200°C @20°C/Min)
Coefficient of Thermal Expansion (CTE):		
Below Tg:	52	x 10^{-6} in/in°C
Above Tg:	156	x 10^{-6} in/in°C
Shore D Hardness:	85	
Lap Shear @ 23°C:	> 2,000	psi
Die Shear @ 23°C:	≥ 10	Kg 3,556 psi
Degradation Temp:	430	°C
Weight Loss:		
@ 200°C:	0.12	%
@ 250°C:	0.20	%
@ 300°C:	0.36	%
Suggested Operating Temperature:	< 375	°C (Intermittent)
Storage Modulus:	509,028	psi

OPTICAL PROPERTIES:		
Spectral Transmission:	≥ 98% @ 800-1600	nm
Refractive Index:	1.5735 @589	nm

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A Meridian Adhesives Group Company

Selected Applications for EPO-TEK® MED-OD2002

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Fiber and Electro-Optics

- Impregnating and terminating fiber optic image bundles and light guides, adhesive for flexible endoscopes, adhesion to plastic and glass optical fibers, structural and near hermetic sealing of glass, ceramic and metals
- Manufacture of all kinds of endoscopes, such as, laryngoscopes, gastroscopes, broncho-scopes and micro ophthalmoscopes; healthcare optics for colonoscopy, urology, and otolaryngology

Imaging Technologies

- Endoscopy with camera and video interface

Ultrasound / Ultrasonic

- Adhesive for catheter delivered surgical mapping. 3D imaging and mapping catheters; catheter ultrasound

Life Sciences and MicroFluidics

- DNA and gene sequencers, readers and amplification circuits
- Potting, over-coating and weather proofing, fitness style wrist watches and wearable devices

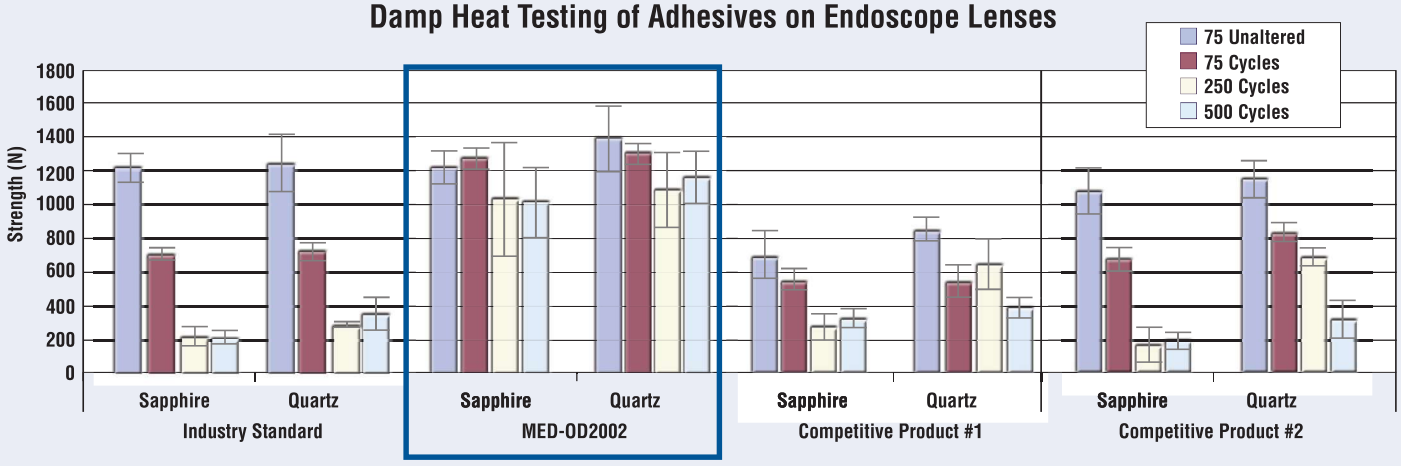
Implantable Devices

- Adhesive for orthopedic and musculoskeletal implants including spinal and joint repair devices using precious metals, ceramics and composite plastics

Surgical Tools

- High power laser optics for general, reconstructive and cosmetic surgery
- Dental device adhesive, lighting or hand instrument
- Fabrication of Rf Ablation catheters, electro-surgical tool for tissue removal

Damp Heat Testing of Adhesives on Endoscope Lenses



MED-OD2002 Test Parameters

- Destructive Shear Testing of Lens to Shaft
- Shaft = SST
- Lens = Sapphire, Quartz
- Adhesive = MED-OD2002 Cured @ 150°C/1hr
- **BEST PERFORMANCE = MED-OD2002**

Medical Grade
EPOXY TECHNOLOGY
EPO-TEK®

EPOXY TECHNOLOGY

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Biocompatibility Approvals

- EPO-TEK® MED-OD2002 cured at 120° C for 1 hour has been tested and is ISO 10993 certified, meeting Hemolysis (10993-4), Cytotoxicity (10993-5), Implantation (10993-6), Intracutaneous (10993-10), Sensitization (10993-10) and Systemic Toxicity (10993-11) test protocols.

Sterilization Information

- Epoxy performance is most influenced by surface preparation and cleanliness, overall process and handling, and finally proper curing selection. While bulk samples of MED-OD2002 may resist sterilization technologies such as autoclave steam, gaseous technologies, gamma radiation as well as liquid disinfectants, the glue joints may differ. All users need to determine the suitability of MED-OD2002 for their given application.
- MED-OD2002 is generally capable of resisting hundreds of autoclave; and >400 cycles of Sterrad® sterilization cycles.
- MED-OD2002 is generally regarded for resisting few cycles of ETO and gamma radiation.

Packaging Availability

- EPO-TEK® MED-OD2002 is available in specialty packaging such as Pre-Mixed Frozen Syringes (PMF), Bi-Paks, or bulk (A & B containers).
- A Bi-Pak video tutorial can be found here:
  http://www.epotek.com/site/technical-material/application-video-tutorials/117-effective-handling-and-mixing-of-epo-tek®-bi-packs.html
- A video tutorial on handling frozen syringes can be found here:
  http://www.epotek.com/site/technical-material/application-video-tutorials/231-proper-receiving-and-thawing.html

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